

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A motor/generator power conditioner, comprising:
a rectifier electrically coupled directly to a motor/generator port; and
an inverter electrically coupled to the rectifier and to a load port,
wherein in a startup mode, ~~the combined rectifier and inverter~~ reverses role and functions as an inverter to provide startup power to the motor/generator port,
and
wherein in an operational mode, the combined rectifier and inverter ~~provides~~ provide generated power to the load port and generates a neutral output.
2. (Currently amended) The motor/generator power conditioner of claim 1, further comprising:
a DC power bus capable of bi-directional power flow ~~electrically coupling~~ interposed between and directly coupled to each of the rectifier to the inverter; and
a bus capacitor positioned in parallel to the DC power bus.
3. (Currently amended) The motor/generator power conditioner of claim 2, further comprising a startup power source is coupled to the DC power bus[.].
4. (Original) The motor/generator power conditioner of claim 3, wherein in the operational mode the startup power source is recharged by at least one of the rectifier and the inverter.
5. (Original) The motor/generator power conditioner of claim 1, wherein the rectifier comprises an active rectifier.
6. (Original) The motor/generator power conditioner of claim 5, wherein the rectifier comprises a three-leg rectifier comprised of:
a plurality of switching devices; and
a plurality of diodes, each of said diodes being electrically coupled in parallel to a respective corresponding switching device.

7. (Original) The motor/generator power conditioner of claim 1, wherein the inverter comprises a four-leg inverter comprised of:
 - a plurality of switching devices; and
 - a plurality of diodes, each of said diodes being electrically coupled in parallel to a respective corresponding switching device,wherein one of the four legs is electrically coupled to the neutral output.
8. (Currently amended) The motor/generator power conditioner of claim 1, wherein the combined rectifier and inverter provides sufficient generated power and sufficient startup power without a separate starter circuit.
9. (Original) The motor/generator power conditioner of claim 1, further comprising a separate starter circuit for producing the startup power.
10. (Original) The motor/generator power conditioner of claim 1, wherein a power factor of the generated power is adjustable.
11. (Original) The motor/generator power conditioner of claim 1, wherein a power factor of the generated power is greater than about 0.95 leading or lagging.
12. (Original) The motor/generator power conditioner of claim 1, wherein a power factor of the generated power is about zero.
13. (Original) The motor/generator power conditioner of claim 1, further comprising a prime mover for the motor/generator.
14. (Original) The motor/generator power conditioner of claim 13, wherein the prime mover for the motor/generator comprises one of a turbine and a diesel motor.
15. (Currently amended) The motor/generator power conditioner of claim 1, wherein the motor/generator power conditioner is a two stage way conditioner wherein the roles

of the rectifier and the inverter are selectively reversible so that the rectifier acts as an inverter and the inverter acts as a rectifier.

16. (Currently amended) A method of controlling a motor/generator, comprising:
supplying startup power to the motor/generator via a rectifier electrically coupled to an inverter in a manner wherein the rectifier functions as an inverter during startup of a motor of the motor/generator;

conditioning generated power from the motor/generator via the rectifier and the inverter; and

generating a neutral output via the combined rectifier and inverter while conditioning generated power.

17. (Original) The method of claim 16,
wherein supplying startup power to the motor/generator comprises supplying sufficient power to the motor/generator absent a separate starter circuit, and
wherein conditioning generated power from the motor/generator comprises conditioning sufficient power from the motor/generator absent a separate starter circuit.

18. (Original) The method of claim 16, further comprising:
adjusting a power factor of the generated power.

19. (Original) The method of claim 16, wherein the power factor of the generated power is greater than about 0.95 leading or lagging.

20. (Currently amended) A motor/generator power conditioner, comprising:
rectifier means for functioning as a rectifier when power is generated by the motor/generator and for temporarily functioning as an inverter during startup and supplying startup power to the motor/generator;

inverter means for ~~conditioning generated power from the motor/generator~~ converting DC power from the rectifier means when power is generated by the motor/generator; and

means for generating a neutral output from the ~~means for conditioning generated power~~ associated with the inverter means.

21. (Currently amended) A motor/generator power conditioner, comprising:
a three-leg active rectifier electrically coupled directly to a motor/generator port;
a four-leg inverter electrically coupled to a load port;
a bi-directional DC power bus electrically coupling the rectifier to the inverter;
and
a neutral output coupled to one of the legs of the inverter and such as to configure the motor/generator power conditioner so that the three-leg active rectifier can function as an inverter during a startup mode wherein the generator is operated as a motor to accelerate the motor of the motor/generator up to an operational speed.
22. (Currently amended) The motor/generator power conditioner of claim 21,
~~wherein in a startup mode, the combined rectifier and inverter provides startup power to the motor/generator port, and~~
wherein in an operational mode wherein power is being generated by the motor/generator, the combined rectifier and inverter ~~provides~~ provide generated power to the load port and a neutral for the neutral output.
23. (Currently amended) The motor/generator power conditioner of claim 22,
wherein a power factor of the generated power is adjustable.
- 24 (Currently amended) The motor/generator power conditioner of claim 22,
wherein a power factor of the generated power is greater than about 0.95 leading or lagging.